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## THE SLIDE RULE AS A SUBJECT OF REGULAR CLASS INSTRUCTION IN MATHEMATICS

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In the past year regular class instruction in the use of the slide rule has increased rapidly. During the war it was found that the slide rule was a very efficient calculating instrument on account of its rapidity of operation and the ease with which it could be carried in the pocket. Hence, it became indispensable in the artillery and in other branches of the service where computation was required. The supply of rules ordered for the use of the U. S. Government was so great that one manufacturing firm was 20,000 rules behind its orders. It was also found that the rule was a very interesting and convenient subject of study for soldiers in hospitals. This study was promoted by the publication under Government supervision of a monograph on the slide rule called Unit Course No. 1 in Mathematics, the purpose of which was to teach the use of the slide rule by very simple exercises with a minimum of theory. After the close of the war, colleges that had taught the rule for military purposes continued its use in classes of trigonometry. This practice was followed by secondary schools as rapidly as teachers came to understand the use of the rule. Today in many colleges and secondary schools the slide rule is regularly taught in connection with the work in trigonometry. This gives the student an excellent application of the theory of logarithms and equips him with the power to solve instantly nearly all problems in mechanics, physics, and chemistry, with a great saving of time.

It would be an advantage if the rule could be taught in the mathematics classes early enough to be used in physics. For this purpose and because of the intrinsic interest in the work itself, it seems that the plan of several high schools for using the slide rule in the first year is admirable.

In the second or third year of the junior high school, where a review of mathematics is desired, the slide rule has been found very attractive to the students and very useful in computation and in checking numerical work.

The recommendation of the National Committee on Mathematical Requirements that the slide rule be used in junior high schools and in senior high schools has helped to stimulate interest in this instrument.

In shop mathematics and in engineering courses, the rule will continue to be used extensively as in the past.

Recently I observed a class in trigonometry in one of the large high schools of New York City. After solving by the usual method a triangle where two sides and the included angle were given, the results were tested by the slide rule. If an error appeared, it was easily located by the rule. If no error appeared, then the regular check formula of trigonometry was applied. Without the use of the slide rule an error could only have been detected by reviewing the entire computation.

Official recognition of the value of the slide rule was given last June in New York State when the Niagara Falls High School asked and secured permission for its students to use the slide rule in the State Regents' Examination in trigonometry. Since the examiners require all logarithmic work to be shown on the answer paper, the permission to use the slide rule as a check seems perfectly safe.

The time necessary to master the slide rule varies according to the ability of the student. The calculation of per cents may be learned in a few minutes. To secure speed and accuracy on all operations it is desirable to use four or five recitation periods.

Students should be required to buy their own slide rules. Where this is not possible, the school may buy rules enough for one class and use them in the classroom where drawing instruments are used.

With the proper help from textbooks and manuals it is perfectly possible for a teacher to teach himself and his class the use of the rule. The enthusiasm with which this instrument is received by the students is evidence that we shall soon see the slide rule taught regularly in every college and secondary school.

I shall be glad to give any desired information to teachers regarding equipment for teaching the slide rule.